PERCEPTIONS OF INFRASTRUCTURE IN THE WORLD HERITAGE HISTORIC TOWN BASED ON AN EXAMPLE, THIS CASE FROM THAILAND

Pakin WITCHAYAKAWIN

Naresuan University, International College, 99 Moo-9, Thapho, Mueang, Phitsanulok, Thailand, e-mail: pakinw@nu.ac.th

Raktibul CHANTANUPAN[*]

Chiang Rai Rajabhat University, School of Tourism, Ban Du, Mueang, Chiang Rai, Thailand, e-mail: raktibul.cha@crru.ac.th

Abstract: Introduction-the perception of tourists is a crucial way to reflect the quality of infrastructure in the World Heritage Sites (WHSs), which would be continually developed to remain the tourism demand and to sustain the WHSs themselves. Aims-the research aims to study the perceptions of foreign tourists pertaining to the infrastructure in the World Heritage Historic Town of Sukhothai, Thailand. Method-this empirical qualitative research uses the structural interview form as a research tool for face-to-face interviews with 41 foreign tourists using purposive sampling. Results and interpretation-the findings show that the access and ease of walkways were the key infrastructure issue that was unpopular amongst tourists; and others crucial factors were unfolded. Tourists from different demographics contributed to the same perceptions, thus indicating a critical issue for the development of this tourist destination.

Key words: perceptions, infrastructure, historical park, world heritage historic town

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INTRODUCTION

A coherent understand of the impact an infrastructure has on the tourism industry is essential. Transportation, social, and cultural infrastructure are the key element necessary for cities, towns, and sites to ensure the comfort of its visitors are met. The priority of infrastructure development was discussed in the World Economic Forum 2019 as the first pillar of a travel and tourism competitiveness index (World Economic Forum, 2019). As being the World Heritage Site of Sukhothai and a Creative City of Crafts and Folk Art (UNESCO, 2021), the infrastructure in Sukhothai Province needed to be investigated to support the tourism development of this valuable historic site and its touristic competitiveness. The observations are based on the viewpoints as shared by foreign tourists. Their attitudes reflect the state of the infrastructure in Province of Sukhothai. When locations are difficult to access, like many of the tourist sites in Sukhothai, an efficient system of connecting resources is transportation. The transportations link the touristic attractions which are cultural infrastructure such as monuments, temples, and museum in Sukhothai Historic Town. The social infrastructure will be facilitated visitors' comforts and connected to society such as accommodation, internet, and Fi-Wi connection. The Sukhothai historical park (SHP) is the main attraction in HTS. The primary touristic highlights are the Buddhist temples such as Mahathat Temple, and Si Chum Temple. The monument of King Ramkhamhaeng the Great is the centre area of the SHP. Tourists can reach Sukhothai by airplane, private car, public bus, and rail transport. The traditional transport in Sukhothai is Rod Cork Moo or Songtaew [a passenger local truck] that charged at lowest price US$ 1 per person from SHP to downtown. Tuk Tuk or tricycle motor are also available in HTS. Inside the historical park, visitor can transport trams, electric cars, and tricycles. A traditional hotel in HTS is the Pailyn Sukhothai Hotel, which is about 4 km. from the SHP. The statistics in recent years were displayed the change of the tourism in Sukhothai Province as presented in Table 1.

Table 1. Number of Tourists and Revenue in Sukhothai Province (Source: MOTS, 2021)

Tourist (million)	2019	2020	% Change (+/-) in 20/19	Revenue (US$ million)	2019	2020	% Change (+/-) in 20/19
Thai	1.10	0.66	-39.59	From Thai tourists	90.44	51.34	-43.23
Foreign	0.39	0.08	-77.21	From foreign tourists	39.13	9.69	-75.23%
Total	1,501,482	758,626	-49.47	Total	129.56	61.03	-52.90%

Table 1 presents the number of tourists and revenue in Sukhothai Province from 2019 to 2020. In Sukhothai Province, the total number of tourists in 2020 was 0.75 million which declined about 49.47% from 2019 (1.50 million) (MOTS, 2021). The number of domestic tourists was 0.66 million in 2020 which dropped about 39.59 from 2019 (1.10 million); while the amount of foreign tourists in 2020 was 0.08 million which deceased approximately 77.21% from 2019 (0.39 million) (MOTS, 2021). The total revenue of tourism in Sukhothai Province was US$ 61.03 million in 2020 which fail-off

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[*] Corresponding author

around 52.90% from 2019 (US$ 129.56 million) (MOTS, 2021). The revenue from domestic tourists in 2020 was US$ 51.34 million which reduced from 2019 (US$ 90.44 million) about 43.23%; the revenue from foreign tourists in 2020 was US$ 9.69 million which declined from 2019 (US$ 39.13 million) about 75.23% (MOTS, 2021). The number of tourists and revenue in SHP are shown in Table 2. Table 2 shows the number of tourists and revenue in SHP. The number of total tourists as 1.12 million in 2019 and 1.02 million in 2020, a decrease of 8.94%. The biggest proportion of tourists were Thai tourists, which rose to 0.90 million in 2020, an increase of 4.37%, while the number of foreign tourists was 0.12 million in 2020, a drop of 53.78%. A source of the income of SHP is entrance fee and transport rent. A ticket costs about US$ 3.19 per foreign tourist and US$ 0.64 per Thai tourist. Based on the SHP's revenue from entrance fee, the percentage difference in between 2020 and 2019 was -87.25% for Thai tourists and -52.52% for foreign tourists. The total revenue from entrance fee in 2020 was US$ 0.50 million, a -71.91% change over 2019. Besides, the total revenue from transport rent in 2020 was US$ 0.05 million, a -19.12% over 2019 (Sukhothai Historical Park Office, 2021).

Table 2. Number of tourists and revenue in Sukhothai historical park in 2019 – 2020 (Source: Sukhothai Historical Park Office, 2021)

Year	No. of Tourists (million)			Revenue from entrance fee (US$ million)			Revenue from transport rent (US$ million)		
	2019	2020	% Change in 20/19	2019	2020	% Change in 20/19	2019	2020	% Change in 20/19
Thai	0.86	0.90	4.37	0.78	0.37	-87.25			
Foreign	0.26	0.12	-53.78	0.99	0.13	-52.52	0.06	0.05	-19.12
Total	1.12	1.02	-8.94	1.78	0.50	-71.91			

Statement of the problem

Sukhothai is a less frequented heritage location that is buffered from urban influences of the larger metropolitan and tourist areas in Thailand (King and Parnwell, 2011). The SHP needs to be improved and upgraded the community's public facilities (signs and maps for better accessibility), customer service, evaluated the capacity of cultural tourist spots regularly, and increased the roles of local residents in the buffer zone (Sirasoonthorn et al., 2016). Furthermore, the local people in the areas of Sukhothai, Si Satchanalai, and Kamphaeng Phet Historical Park lack English language skills and have an income barrier that may affect sustainable historical tourism development (Seviset et al., 2018). The National Legislative Assembly (2019) reported that the HTS lacks CCTV throughout the old city, which is important infrastructure for the safety of the tourists, besides lacking the supporting security and safety for tourism police, volunteers, and SHP officers. The HTS also has a transport system development problem for total and rural tourism. Moreover, the HTS confronts an information service problem, such as a lack of direction signs and correct bus timetables for Thais and foreigners. Finally, the HTS lacks training for local tour guides, including the problem of a lack of a working license of the local tour guides, which leads to illegal guide services (National Legislative Assembly, 2019). In reference to a report from the National Legislative Assembly (2019), the major problem in HTS is in tourism infrastructure (CCTV, transport, and tourist information). Thus, the current study aimed to explore the perceptions of foreign tourists pertaining to tourism infrastructure in HTS in order to explore their perceptions of the priority of these preceding problems and gain more insight into the issues, as well as finding solutions that benefit the forecasting of tourist behaviour. The Sukhothai Provincial Tourism and Sports Office (2017) reported the following tourism problems in Sukhothai: (1) tourism service officers have limitations in foreign language skills and the use of information technology; (2) the infrastructure and facilities for tourism are not standardised, such as for accommodation, restaurants, tour guides, travel transport in the city, tourist centres, and souvenir centres; and (3) the transport service for tourism is complex, which is inconvenient for connections between tourist sites.

Research Objective and Significances of the Study

The objective of this study was to investigate the perceptions of foreign tourists pertaining to the infrastructure in the World Heritage Sukhothai Historic Town. The significance of this current research are that (1) the findings will indicate issues with HTS tourism infrastructure through the perceptions of tourists and stimulate the Sukhothai Provincial Government and the developers of HTS to acknowledge and remedy such issues and challenges; (2) in terms of marketers, this will enable the perceptions of tourists pertaining to infrastructure from the results of this research to be used in the development of marketing tools to sustain the number of visitors; and (3) the findings impact the heritage tourism-related stakeholders to unfold important factors for the development the HTS. These stakeholders include hotel businesses, restaurants, transport rental shops, and local businesses around the HTS. The results will indicate the crucial factors that can lead to the development of the HTS. This study used empirical analysis from an evidence-based approach to research and interpretation of information, as it relied on real-world data from face-to-face interviews regarding the perceptions of tourists pertaining to tourism infrastructure in the context of the WHS of the HTS.

LITERATURE REVIEW

The touristic destination choice process is intensively influenced by their attitudes, motivations, and perceptions; tourists come to a destination and consume the same tourism products and service, but they perceive the products and services differently (Athula Gnanapala, 2015). Moreover, tourists develop their satisfaction or dissatisfaction regarding holiday spending based on their attitudes and perception of what they have seen, consumed, and experienced (Athula Gnanapala, 2015). Perception was defined as a process whereby individuals' physical sensory impressions of sights, sounds, and smells are selected, organised, and interpreted into a meaningful and coherent picture of their environment (Lamb et al., 2014). Goh (2010) found that tourists expressed their attitudes and perception the when visiting heritage

sites in Australia as presented in Table 3. Table 3 shows the perception and attitudes of tourists when visiting the heritage site in Australia. The tourists perceived that far distance or remoteness was the most important factor, followed by transport difficulties, lack of information, dangerous terrain, lack of disability facilities, insufficient or poor accommodation facilities, financial costs, and weak health, respectively (Goh, 2010). The educational value of heritage tourism was the most frequent positive attitude, followed by positive feedback from previous tourists, and well knowledgeable service staff. The core reasons for not visiting the heritage tourism consisted of been there before as the most significant factor, followed by boring or not interested, and poor supporting facilities (Goh, 2010). Finally, online discussion boards or websites were the most significant reference group influencing visitation to the heritage site, followed by other tourists, tourism authorities, and accommodation employees (Goh, 2010).

Table 3. The Difficulties When Visiting Heritage Sites in Australia (Source: Goh, 2010)

	Frequency of Respondents of voting
The Perception of Heritage Tourism Site	
1. Far distance or remoteness	46
2. Transport difficulties	38
3. Lack of information	35
4. Dangerous terrain	32
5. Lack of disability facilities	28
6. Insufficient or poor accommodation facilities	19
7. Financial costs	15
8. Weak health	12
Positive Attitude	
1. Educational value of heritage tourism	51
2. Positive feedback from previous tourists	39
3. Well knowledgeable service staff	30
Reasons for Not Visiting	
1. Been there before	29
2. Boring or not interested	25
3. Poor support facilities	23
Influencers for Visitation by Group	
1. Online discussion boards or websites	60
2. Friends or relatives	48
3. Other tourists	39
4. Tourism authorities	31
5. Accommodation employees	27

As being the important facilitator to access touristic sites, infrastructure is primary to be studied in order to develop the touristic attractions. Infrastructure is separated by functions. First, transport infrastructure functions, through the ability of roads and railroads to form connected networks, allow high flows of merchandise and passengers within and among regions. Second, ecological infrastructure relates to species' survival, but is not particularly relevant to this study. Last, cultural infrastructure functions through the maintenance of cultural heritage values depending on the quality of areas and objects, and spatial juxtaposition and configuration (Antonson et al., 2010). Tourism infrastructure is defined as the infrastructure involving ancillary and complementary facilities, equipment, systems, processes, and resources necessary for the function of every tourist destination. Its primary functions include buildings, roads, railways, and airports that make a tourist destination accessible for tourists (Jovanović and Ilić, 2016; Popesku, 2011). The argument that tourism infrastructure is determined by tourism supply chain and visitor experience, which includes transport infrastructure, environmental and social infrastructure, and economic and social infrastructure (Tourism and Transport Forum, 2008). First, transport infrastructure includes roads, rail, air, sea ports, and fleet capacity for visitor passenger transport (Tourism and Transport Forum, 2008). Second, economic and social infrastructure are related to build form to deliver attractions, events and visitor, services through convention centres, stadiums, accommodation urban precincts and museums (Tourism and Transport Forum, 2008). Last, environmental and social infrastructure refer to manage natural and heritage environments, e.g. marine parks, National Parks, nature reserves and forests that attract visitors (Tourism and Transport Forum, 2008). A successful tourism development calls for intensive investment in modern infrastructure, which is an increasingly necessary condition (Jovanović and Ilić, 2016). The greatest impact on the value of growth of the tourism infrastructure pillar is exerted by the number of hotel rooms (Jovanović and Ilić, 2016). The tourism infrastructure in the current study can be categorized as (1) transportation infrastructure providing destination access to visitors from global markets to the HTS; (2) social infrastructure provided by a combination of service instalments and accompanying facilities; and (3) cultural infrastructure which relies on maintenance of cultural heritage values and depends on the quality of areas and objects, and their spatial juxtaposition. Rajesh (2013) found that the tourist perception construct was influenced by factors such as historical and cultural attractions, destination affordability, travel environment, natural attractions, entertainment, and infrastructure. Moreover, the destination image construct was influenced by factors including infrastructure and facilities, heritage attractions, natural made attractions, destination safety and cleanliness, friendly local communities with calm atmospheres, rejuvenation and service price, and affordability. Finally, the satisfaction construct was influenced by factors such as entertainment, destination attractions and atmosphere, accommodation, food, transportation services, and shopping (Rajesh, 2013). There was also a relationship between knowledge acquisition and satisfaction that would subsequently lead to a word of mouth (WOM) referral or a return visit to the heritage site. Five factors that enhanced the experience of heritage tourists in Northern Ireland were (1) audio and visual communication, (2) atmospherics, (3) on-site engagement, (4) information, and (5) heritage preservation (Kempiak et al., 2017).

Besides, there were conflicts of interests among different stakeholders in five heritage tourism in China; Zhong et al. (2020) suggested the need for a coordination mechanism of heritage tourism development involving (1) multi-party collaboration, (2) improving the training and compensation system, and (3) encouraging participation. King and Parnwell (2011) presented a framework related to the effects of elements of urban expansion and extended metropolitan areas on domestic, middle-class tourism in Thailand, which has contributed significantly to the rise of domestic tourism. The Heritage and WHS cultural and natural management in the Thailand context consist of ownership, access, appropriate use, commodification, interpretation, and representation of Thainess (being Thais in the elements of history and culture) (King

and Parnwell, 2011). Besides, 'access' is a focusing element for developing WHS, which is related to the focus of the current study on tourism infrastructure to support the development through the perceptions of foreign tourists. Srikhongchan (2018) studied the streetscape case study of the Ta-Pang Thong Temple in the SHP and suggested the improvements. First, activity improvement by the communities affect the landscape of the area through the excessive influence of houses, shops, markets, parking lots, and advertisements; thus, the government must determine regulations contributing to knowledge of building repair and extension (Srikhongchan, 2018). Second, area development that must determine an open zone for uses such as "walking street" markets to provide capacity for traditional and cultural activities of local communities (Srikhongchan, 2018). Third, travel paths and parking areas must be improved to protect the temple's scenery, the open zone, and the slow zone (Srikhongchan, 2018). Finally, bike lot and a cultural tourism route needed to be set to link canals and villages (Srikhongchan, 2018). Technological application for transporting in Sukhothai on mobile phone was studied. A study of innovative security and traffic application software to manage the WHS of Si Satchanalai – an associated historic town of Sukhothai proposed a mobile application with its functions (Kangkhao and Louhapensang, 2018). The functions are safety and security, transportation information, traffic reporting, and tourist attraction information in the WHS of Sukhothai and associated historic town Si Satchanalai (Kangkhao and Louhapensang, 2018).

MATERIALS AND METHODS

The study used empirical qualitative research. The data was gathered in January 2018 from 41 key interviewees in the HTS, Sukhothai Province of Thailand. The unit of the study was foreign tourists' perception of their experiences and opinions regarding the infrastructure in the HTS. The instrument was a structural, open-ended interview with a guide-based approach, through a face-to-face session via a purposive sampling technique. The purposive sampling technique is defined as a type of haphazard sample conducted to obtain the predetermined types of individuals for the sample (Cozby and Bates, 2012). Additionally, the inclusion criteria of the interviewee selection were (1) selecting foreign tourists who have directly visited the area of HTS which includes the SHP, and (2) choosing inbound visitors who have experience in the use of infrastructure in the HTS. Meanwhile, the exclusion criteria excluded foreign tourists who could not attend the interview until its completion. The types of primary data involved handwritten notes, sound recordings, and photos using notepaper and pens, and recording applications on an iPad, and Canon camera. The following guideline questions were used for the interview: Q1: How do you feel about the infrastructure in the Historic Town of Sukhothai (HTS)? Q2: What do you think about the roads and transport in HTS? Q3: What do you think about the internet and Wi-Fi in HTS? Q4: Please explain your experience with the accommodation and services in HTS? Q5: What do you think about the airport and the local transfers to the HTS? Q6: What do you think about the information service in HTS? Q7: Please explain the walkway facility in the HTS. Q8: What is the best infrastructure in HTS? Why? Q9: What is the worst infrastructure in HTS? Why? Q10: Which infrastructure in HTS should be improved? Why? Q11: What do you feel about the Sukhothai Historical Park (SHP) and internal transport? Q12: What is the best transportation in the SHP? Why? Q13: What are the problems with infrastructure in the SHP? Why? Q14: What should be improved regarding transportation in the SHP? Why? Q15: What are your suggestions for the HTS and the SHP?

The empirical research associated with an inductive approach. It is an approach involving the development of a theory as a result of the observation from the empirical data (Saunders et al., 2016). Thus, the primary data of this research was analysed qualitatively to identify the final themes. The analytical process consisted of five steps to answer the first research question of how foreign tourists perceive the infrastructure in World Heritage Sukhothai Historic Town: (1) preparing the data in a Word file through decoding data from the interviews by listening to the sound recording, reading the data, and transcribing it into Microsoft Word; (2) grouping the data by the topic and sub-topic; 3) open coding by inserting data files into the ATLAS.ti program and create the data codes; (4) categorizing the data by counting the frequency of codes; and (5) thematizing the data as the final step in the process by choosing the highest or the most significant frequency as the theme of each topic. Next, the study presents the results in table and network views. In order to determine the answer for the second research question of what similarities exist in tourist's perceptions across differences in genders and origins, this study ran a Codes Co-Occurrence Table as a quick way of gaining an overview.

A code co-occurrence table portrays the correlations among the codes and, finally, the diagram function creates visualizations of the relationships among codes (Chapman et al., 2017). Friese (2014) defined that ATLAS was the idea of mapping the world by an archive of meaningful documents, and the abbreviation 'ti' in the software name refers to text interpretation. The software belongs to the genre of Computer-Aided Qualitative Data Analysis Software (CAQDAS) program (Friese, 2014). ATLAS.ti was chosen in this research based on the authors' experience and some other reasons. Firstly, the software provides multicolour code labels and more direction explanations than another system. ATLAS.ti is clearly versatile of the two, and it can import, display, code, and analyse such a wide range of qualitative data types (Lewis, 2004). Secondly, the network creation is supported by more options (12 types) in ATLAS.ti than Nvivo which provides only 4 options. Lastly, no errors occurred when updating the ATLAS.ti system, unlike others.

Table 4. Demographic Profile of Interviewees

Demographics		Frequency	%	Total Number
Gender	Male	22	54	41
	Female	19	46	
Age	25 or below	10	24	41
	25-40	19	46	
	41-60	8	20	
	61 or above	4	10	
Occupation	Government	6	15	41
	Business	17	41	
	Retired or others	18	44	
Origin	Asia	4	10	41
	America	4	10	
	Europe	33	80	

RESULTS AND DISCUSSION

The results reported the demographic profile and the perceptions of foreign tourists pertaining to tourism infrastructure in HTS. The demographic profile of 41 interviewees is presented in Table 4. Table 4 displays the demographic profile of 41 interviewees. The majority were male 54% and 46% were female. The largest group of visitors were aged between 25 and 40 (46%), followed by 25 or below (24%), 41 to 60 (20%), and 61 or above (10%). In terms of their occupation, those in the government sector constituted only 15%, the business sector made up 41%, and those who were retired, or others constituted 44%. 80% of them were from Europe and 10% were from Asia and America, respectively.

Perceptions of infrastructure

The tourism infrastructure in HTS can be classified into (1) transportation infrastructure [TRP], (2) social infrastructure [SOC], and (3) cultural infrastructure [CUL]. The codes and frequencies [F] of positive perceptions [PP] and negative perceptions [NP] for each classification of TRP are shown in Figure 1. Figure 1 presents the network view of codes of transportation infrastructure, theme 1 and theme 5. The themes were set after the codes were categorized based on the codes 'meaning. The similar meaning of the codes would be categorized in the same theme. The ranks of themes were based on the total frequency of each theme. The highest total of frequency was theme 1 that in this study is 31 that it referred to 'walkway was in an unsuitable condition.' Future, theme 5 in this study referred to 'bikes were suitable, but improvements required to bike lanes' with frequency 21. The codes and frequencies [F] of the perceptions of SOC are shown in Figure 2.
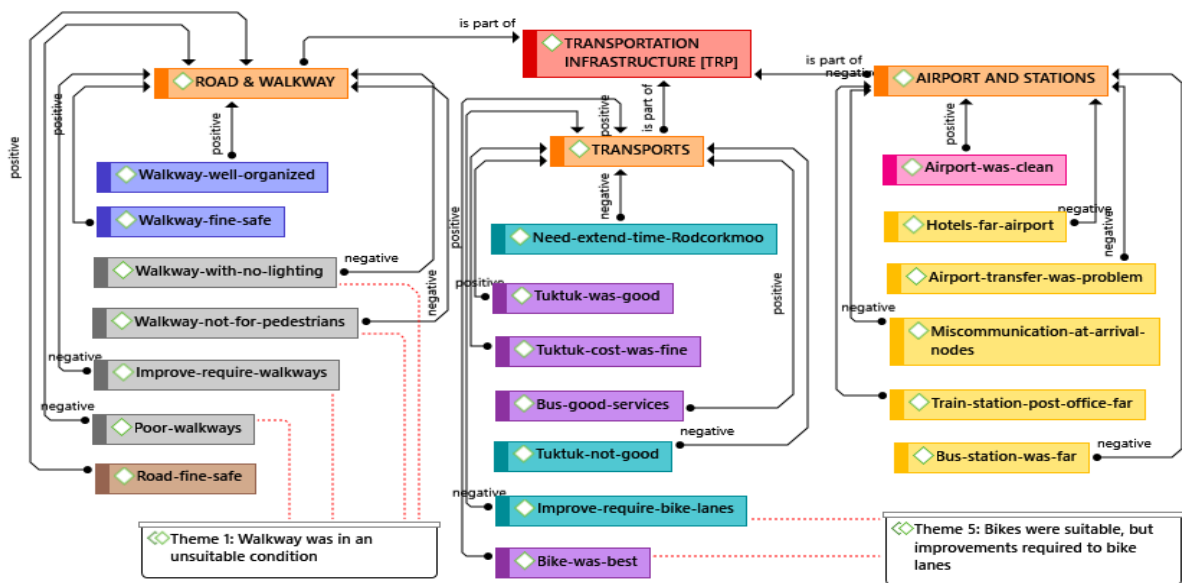

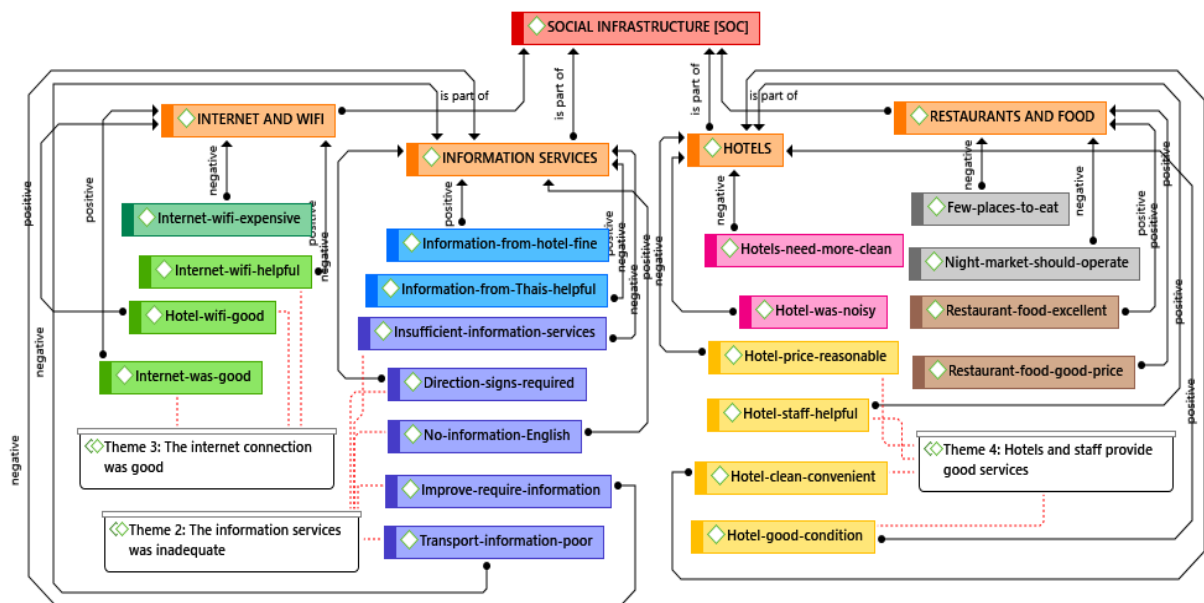Figure 1. Network view of the codes and themes of transportation infrastructure

Figure 2. Network view of the codes and themes of social infrastructure

Figure 2 reveals the network view of the codes and themes of social infrastructure. The network view shows theme 2, 3, and 4. The theme 2 referred to 'the information services was inadequate, while theme 3 regarded to 'the internet

connection was good.' Theme 4 referred to 'hotels and staff provide good services.' The details of codes and frequency classification are presented in Table 5 and Table 6. Table 5 shows the codes and frequency of transportation infrastructure. Negative perceptions of walkways obtained a total frequency of 31, consisting of 'The worst possible walkway with bad conditions, traffic, and excessive rubbish' (10), 'Improve walkways with more lighting and better road conditions' (10), 'The walkway was not very good for pedestrians; narrow and full of obstructions' (8), and 'The walkway had no lighting and was dangerous at night' (3). Also, the codes in transport mode indicated that bikes were the best mode of transport used in the park providing freedom, comfort, and were non-polluting to the environment (14) and HTS should improve bike lanes, parking lots, bike condition and add to the number of non-carbon vehicles (7).

Table 5. Codes and frequencies for perceptions of transportation infrastructure in HTS

TRP	Code	Description of Code (F)	Total F PP	Total F NP	Theme
Road and Walkway	Road-fine-safe	The road is fine, very good, safe, and safe traffic (7)	7		-
	Poor-walkways	Poor walkways with bad conditions, traffic, and excessive rubbish (10)		31*	1: Walkways were unsuitable condition
	Improve-require-walkways	Improvements required on walkways with more lighting and better road conditions (10)			
	Walkway-not-for-pedestrians	The walkway was not very good for pedestrians as it was narrow and full of obstructions (8)			
	Walkway-with-no-lighting	The walkway had no lighting and was dangerous at night (3)			
Transports	Bike-was-best	The bike was the best transport mode used in the park providing freedom, comfort and were non-polluting to the environment (14)	14*		5: Bikes were suitable, but improvements required to bike lanes
	Improve-require-bike-lanes	Improvements required to bike lanes, parking lots, bike condition and increases in the number of non-carbon vehicles (7)		7*	

* Denotes the total frequency of codes that were selected as a theme

Table 6. Codes and frequencies of perceptions of social (SOC) infrastructure in the HTS

SOC	code	Description of Code (F)	Total F PP	Total F NP	Theme
Internet and Wi-Fi	Internet-was-good	The internet was free and good, with good tourist SIM cards (10)	24*		3: Internet connection was good
	Hotel-WiFi-good	The hotel internet and Wi-Fi were good and fast (10)			
	Internet-WiFi-helpful	Internet and Wi-Fi were helpful for maps (4)			
	Transport-information-poor	Transport information was poor and confusing (7)		25*	2: Information service was inadequate
	Improve-require-information	Improvements required to information on the sites, shops, and goods in signs, brochures, and websites (7)			
	No-information-English	I did not get any information due to no English literacy (4)			
	Direction-signs-required	Direction signs required for walking, cycling, and suggested tour programs (4)			
	Insufficient-information-services	Insufficient information at the monuments, descriptive boards, direction signs, and online information (3)			
Hotels	Hotel-good-condition	Hotel was in a very good condition, cleaning and hot water service was excellent (8)	21*		4: Hotels and staff provide good services
	Hotel-clean-convenient	A hotel was a good option as it was very clean and convenient (5)			
	Hotel-staff-helpful	Hotel staff were helpful, friendly, nice, kind, smiling and gave good service (5)			
	Hotel-price-reasonable	The hotel price was reasonable (3)			

* Denotes the total frequency of codes that were selected as a theme

Table 6 demonstrates the codes and frequencies of the social infrastructure. Information service obtained a total frequency of 25, involving 'Transport information was poor and confusing' (7), 'Improvements required to information on the sites, shops, and goods in signs, brochures and websites' (7), 'Information, I did not get any information due to no English literacy (4), 'Direction signs required for walking, cycling, and suggested tour programs in HTS' (4), and 'Insufficient information at the monuments, descriptive boards, direction signs, and online information' (3). Next, the theme of positive perceptions of the internet and Wi-Fi service obtained a total frequency of 24, including 'The internet was free and good, with good tourist SIM cards' (10), and 'The hotel internet and Wi-Fi were good and fast' (10), and 'Internet and Wi-Fi were helpful for maps' (4). The table illustrates theme 2, theme 3, and theme 4. The hotel service obtained a total frequency of 210, featuring 'The hotel was in a very good condition, cleaning and hot water service was excellent' (8), 'A hotel was a good option as it was very clean and convenient' (5), 'The hotel staff were helpful, friendly, nice, and kind; they smiled and gave good service' (5), and 'The hotel price was reasonable' (30). In terms of the cultural infrastructure, most tourists perceived on HTS and SHP in positive experience such as 'SHP and temples were excellent' (6) and 'HTS was very well conserved (2), and conversely some tourists perceived that 'the old city was very poor' (2).

Thus, the perceptions of foreign tourists pertaining to the infrastructure in the HTS were categorized into the following top five themes: (1) The walkway was poor with bad conditions, traffic on the walkway was excessive (a lot of people, bikes, motorcycles), there was excessive rubbish, no lighting along the walkway, and it was dangerous at night because it was dark. (2) Information service was of low quality with poor provision of information about transport usage, confusing information, a

lack of information at some attractions, local shops, and for products. Moreover, the HTS had insufficient English language information for directions for walking and cycling on signboards, suggested tour programs, boards of descriptive information at the monuments, and availability of online information. (3) Internet and Wi-Fi services were good with the free internet provided as well as beneficial tourist SIM cards, fast internet and Wi-Fi served by hotels, and internet that could support mapping. (4) Hotel services were good with a good option of accommodation, very clean hotels, convenience of use, and at availability at a reasonable price. Additionally, the hotel staff were helpful, nice, kind, and smiled and provided good service to tourists. (5) Bicycles were the best choice in the HTS due to the autonomy of usage (tourists could stop wherever they wanted), comfort, and they did not emit pollution but the HTS needs to improve the bike lanes and parking lots. The current study analysed the similarity of perceptions of foreign tourists on infrastructure in HTS which is presented in Table 7.

Table 7. Data analysing by Code Co-Occurrence Table

Code [description]	America	Asia	Europe	Female	Male
1) Bike-was-best [The bike was the best transport mode used in the park providing freedom, comfort and were non-polluting to the environment]	0	1* (0.03)	0	0	1 (0.01)
2) Improve-require-bike-lanes [Improvements required to bike lanes, parking lots, bike condition and increases in the number of non-carbon vehicles]	1 (0.05)	1 (0.05)	1 (0.01)	0	3 (0.05)
3) Transport-information-poor [Transport information was poor and confusing]	0	1 (0.05)	0	1 (0.02)	0
4) Internet-was-good [The internet was free and good, with good tourist SIM cards]	2 (0.08)	1 (0.03)	5 (0.06)	3 (0.06)	5 (0.07)
4) Hotel-good-condition [The hotel was in a very good condition, cleaning and hot water service was excellent]	0	0	3 (0.04)	1 (0.02)	2 (0.03)
6) Poor-walkways [Poor walkways with bad conditions, traffic, and excessive rubbish]	0	1 (0.04)	0	1 (0.02)	0

* The first value is the frequency of co-occurrence, the second in ( ) is the c-coefficient

Table 7 presents the correlation of the codes as analysed using a code co-occurrence table. The coefficient indicates the strength of the relation between two codes; the value of the c-coefficient is between 0 and 1 (Friese, 2014). This table reveals the foreign tourists with different origins (America, Asia, and Europe) had the same perception on the HTS requiring improvements to bike lanes, parking lots, bike condition and addition to the number of non-carbon vehicles. Tourists from different origins and genders had similar perceptions that internet was free and good, and there were good tourist SIM cards. Moreover, the frequency of co-occurrence of America was 2 with the highest c-coefficient value of 0.08. Finally, tourists with different genders had the same perceptions that the hotel facilities were in very good condition, clean, with hot water.

The importance and relevance of walkways has been shown in similar studies to this current one. There was evidence to show positive perceptions of the walkways amongst tourists in the WHSs in Malaysia. Malacca Heritage Town provided much-valued continuous, comfortable walking around heritage objects which supported the value of heritage buildings (Ginting and Wahid, 2016). The physical quality of pedestrian interaction is essential for heritage tourism places to create positive perceptions through the characteristic forming elements (Ginting and Wahid, 2016). In the heritage town of George Town, walkways were one of the important components in the development of the urban heritage town; conversely, problems included fewer paved pedestrian walkways and some drawbacks in terms of the connectivity and continuity (Noraffendi and Rahman, 2020). These preceding studies in Malaysia accord with this current study's findings that most of the key interviewees perceived the walkway as important in the HTS, but it had many problems. The walkway is a necessary element in the historic town and most of the tourists were concerned about its quality in Sukhothai, which was deemed to be low quality as it was narrow, full of motorbikes, bicycles, and construction items, and had holes in the surface. The perceptions of foreign tourists about the low quality of walkway in the current study strongly calls for the construction of the proposed study on the streetscape in the Ta-Pang Thong Temple of SHP (Srikhongchan, 2018). Srikhongchan (2018) proposed (1) a landscape for activities, (2) an open zone for a walking street market (3), an area for travel paths made by removing the huge coach parking lot, and (4) creation of a bike parking lot and cultural tourism route. Based on Table 10, tourists from Asia and female travellers were directly concerned with their perception that the walkway was in an unsuitable condition and information about transportation services was poor in the HTS.

The perceptions of tourists pertaining to infrastructure in the HTS in this study strongly supported the implementation of electronic infrastructure proposed by a study (Kangkhao and Louhapensang, 2018). They suggested a mobile application using the innovative security and traffic application software for management of the WHS of Sukhothai and associated historic town Si Satchanalai with the following information service functions – safety and security (police, patrol officers, and emergency), transportation (parking information, taxi information/tracking, and bus information/tracking), traffic (condition reports, accident notifications, and under-construction notifications), and tourist attraction information (tourist attractions, accommodation, food and drink, and shopping). In this study, validation of the application came from the tourists' perceptions of the poor quality of available information service in the HTS (bike routes, walking routes, maps, tourist attractions, shops, products, English language, choice of eating places, suggested tour programs, and online information). Unless the proposed mobile application succeeds, the HTS cannot close several gaps in the needs of foreign tourists.

UNWTO (1998) indicated a trend in tourism as increasing the 'tailoring or customizing of travel' and reducing traditional tourist packages that rely on information from travel agents. In order to reply to the changes, the internet presents its capacity as an information management tool and offers valuable advantages and opportunities for local actors, local communities, managers, and planners. One of its great advantages is, undoubtedly, the creation and easy management of websites to broadcast information to tourists and stakeholders (Teruel and Viñals, 2012). Teruel and Viñals (2012) indicated six objectives to act as a bridge between heritage conservation and tourism through the internet, consisting of (1)

capacity-building – using the internet as a channel to obtain and share information on tourism destinations, (2) increasing awareness of site conservation, (3) searching for funds for site conservation, (4) communication – local communities using the internet to contact tourists directly via the data gathered from potentially interested visitors, (5) promoting tourism via a search engine such as Yahoo! and Google, and (6) marketing of local products, crafts, and services (Teruel and Viñals, 2012). In reference to these indications from UNWTO (1998) and the study by Teruel and Viñals (2012), the findings of this study related to the positive perceptions of the foreign tourists pertaining the internet and Wi-Fi service throughout the HTS proved these services to be a significant asset for these sites. Perceptions of the internet connection being in good condition in the HTS were held by both female and male tourists from all continents based on the results. The main tourism infrastructure in the WHSs in Ethiopia includes Ethiopian Airlines' routes with both international and domestic access, airfields, hotels at the main tourism sites, and a tourist agency operating via the National Tourism Operation (Negussie and Wondimu, 2012). In contrast, the hotels in the World Heritage City of Ayutthaya in Thailand were not considered to be of such importance due to their proximity to Bangkok. Thus, tourists spent time in Ayutthaya on only a one-day trip and returned to hotels in Bangkok (Staiff and Ongkhluap, 2012). In terms of HTS, the foreign tourists had a positive perception of hotels and their services as significant infrastructure in the WHS, which coincides with a study by Negussie and Wondimu (2012). Regarding the results, the hotel facilities being in very good condition was supported by both female and male tourists from Europe.

CONCLUSION, LIMITATION AND IMPLICATION

The infrastructure in HTS has confronted many issues as addressed in research papers and organizational reports for a half-decade; hence, the current study investigates the perceptions of foreign tourists pertaining to such issues. Apparently, the tourists' concerns related to transportation infrastructure and social infrastructure rather than cultural infrastructure. The five main perceptions consisted of poor walkways in the HTS, an insufficient information service, good provision of internet and Wi-Fi connections, good quality hotel and services, and bicycles as the best transport mode within the SHP. Meanwhile, tourists from different continents had the same perception on the suggestions that HTS should develop bike lanes, parking areas, improve the condition and sizing of bikes and raise the forms and number of non-carbon emitting types of transport, and perceived that internet links were good and free. Walkway and sidewalk issues imply the heritage and cultural tourists' demand, the government and Sukhothai Provincial Executive Office need to consider and concern to improve walkways and sidewalks under the incentive policy. The policy related to walkways and sidewalk development needs to construct the spacious stable sidewalks, continual footpaths, separating sidewalks between bike users and pedestrians. The policy needs to cover the prohibition of product venders and shop instalments at footpaths. The government needs to issue the policy and law enforcement to control unsuitable behaviour of the transport drivers who charged over price of services. The policy of the service provider development shall be set the standardized English language proficiency courses examinations in order to the accommodation staff will provide better services through better language skill communications. Finally, the policy to develop the comprehensive information and direction signs need to launch and manage budget to create them in English language throughout Historic Town of Sukhothai.

The blueprint of HTS and SHP tourism development should be reconsidered and revised. The walkways both inside and outside the SHP are an important tourism infrastructure that must be urgently improved, as they are the main transport mode around the SHP. An English information service should be available online through the internet and Wi-Fi internally and externally to the park. Not only the park officers, but all service providers also must also improve their English language communication skills, especially the hotel staff who possessed low English proficiency levels based on the tourists' experience. As tourists mostly ride bicycles, the SHP managers and Sukhothai provincial governor need to consider constructing more bike parking lots and improve walkways via a continuous walkway throughout the HTS and assuring separate walkways for pedestrians and motorbike and bicycle users. Due to the strong nature of tourist perceptions contained in this study, they need to consider that the walkway may not only be a significant infrastructure inside the park, but also outside the park, local market, walking streets, and surrounding villages to allow tourists to walk and admire the authentic ways of life of the local people in addition to the perfect setting of tourist attractions in the historic town.

In terms of practical implications, marketers can acknowledge foreign tourists' behaviours in the HTS whereby they prefer slower movement, especially walking, around the WHS. Promotions offered through the internet will be advantageous and they may require essential information before purchasing. Hotel managers can raise the value of hotel products through energy-saving, recycling practices, and intensive English language training for the hotel staff. As for social implications, people in the HTS area need to respect the rules and regulations of transportation by not using vehicles on the walkways as well as being responsible for garbage management in public areas. Besides, the Department of Land Transport needs to act seriously on the overcharging of services by local transport operators in Tuk Tuks, taxis, and Rod Cork Moos and organizations need to cooperate by issuing legislation to control and protect some unpleasant behaviours of the local transport drivers. Furthermore, the local transport drivers need to learn and respect the ethical practice towards visitors and customers for the sustainability of their profession. In reference to the demographic profile of the key interviewees of this study, Europeans represented 80% of all interviewees and the findings may not represent the balanced perceptions of tourism infrastructure from all continents around the world. This study, however, found less concerns about the cultural infrastructure and this apparent contradiction requires further clarification by future researchers via mixed-method research in order to triangulate clearer tourist perception.

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